\* refers to an area of the NAS Protocol or Toolkit with additional information (to be completed when Protocol and Toolkit fin al) NAS Treatment Flowsheet Neonatal Abstinence Syndrome (NAS) Pharmacologic Therapy Protocol Identification. Stratification and Diagnosis\* Maternal Hx **Maternal Drug Screen** Exposed Infant Drug Screen (Maternal Drug Screen refused is Positive, but Negative for presumed exposure until neg) Opiates\*: DX: Exposure All Negative **Infant Signs** Standard Not DX: NAS (Prematurity requires special Newborn Non-Pharmacologic TX\* considerations\*) Care Drug-Specific TX\* if needed CPS Referral unless all identified drugs are confirmed Positive screen or signs: to be prescribed to mother DX: Exposure\* Exposed Infant Drug Screen(s) Watch 48-72 hours\* All Negative: DX: Exposure Not DX: NAS Category 1\*-Asymptomatic **Exposed Infant Drug Screen Positive Cord Tissue Drug Test** Non-Pharmacologic TX\* for Opiates (including polydrug): Finnegan NAS Scoring CPS Referral if indicated. Non-Pharmacologic TX' every 3-4 hours, after a Further care is based on NAS CPS Referral unless all identified Scores (Category may change) drugs are confirmed to be feeding prescribed to mother NAS DX: Signs and Further care is based on NAS Exposure to opiates.\* Scores (Category may change) Initiating Treatment<sup>3</sup> NAS Category 3\* NAS Category 2\* NAS Category 4\* NAS Score: NAS Score: NAS Score: 3 scores in 24 hours or Doesn't meet criteria for 2 in 24 hours >=12 or 2 consecutive >=8 or Pharmacologic TX Seizure or One >=12(Category may change to 3 or 4) Other severe signs (Category may change to 4) No drug treatment initially High Dose 1<sup>st</sup> Line Drugs Standard Dose 1<sup>st</sup> Line Drugs PRN doses may be used once Begin treatment every 3 to 4 PRN doses may be used once or twice a day (morphine 0.05 hours orally with morphine 0.05 or twice a day (morphine 0.05 mg/kg) to 0.1 mg/kg/dose mg/kg)or Perform Psychosocial and (or appropriate alternative such Scheduled treatment every 4 Home Evaluations hours orally with morphine 0.05 as Methadone with initial dose Alert Primary Care Physician; 1st 0.1 mg/kg/dose every 6 hours to 0.1 mg/kg/dose appointment 1-2 days after for 24 hours) (conventional TX) discharge (or appropriate alternative such Order and arrange Home Health <u>Seizures</u> as Methadone with initial dose Skilled Nursing Visits for 30 High dose opiate and 0.1 mg/kg/dose every 6 hours days (frequency as appropriate) Phenobarbital 10 to 20 mg/kg IV for 24 hours) (No PA needed for Medicaid) loading dose, then Do not adjust doses for weight Discharge to parent or guardian 2.5 mg/kg/dose every 12 hours; gain when increasing or at 48-72 hours unless other decreasing medical necessity requires stay. 5 to 10 mg/kg IV bolus for All Discharge Criteria\* must additional seizures be met. Increasing Treatment\* NAS signs not adequately controlled with simple single drug regimen: Category 4\* (e.g. >=3 scores >= 8 in a 24 hour period despite conventional treatment) increase morphine dose by 0.05mg/kg per dose signs are controlled or maximum dose of 0.20 mg/kg/dose every 3 hours is reached\*. (1.6 mg/kg in 24 hours) Rescue doses of 0.1 mg/kg morphine for severe breakthroughs. If 2 rescue doses used in 24 hours, incorporate total mg into increased scheduled doses. Increase methadone (if used rather than morphine) by 0.05 mg/kg per 24 hours to a maximum dose of 0.2 mg/kg every 6 hours. (0.8 mg/kg in 24 hours) Note: Higher doses of morphine may be used at the attending physician's discretion if the recommended maximum dose does not provide control of withdrawal. [apnea, significant sedation and hypotension are some potential side effects] Consider adding a 2<sup>nd</sup> Line Drug Phenobarbital 2.5 mg/kg/dose every 12 hours; or Clonidine 1 to 1.5 µg/kg every 4-6 h) Weaning Treatment\* Weaning indicated: <=2 scores >= 8 in a 24 hour period (some centers require all scores <8 for 48 hours) Stable infants on single drug regimen: Wean every 24 to 48 hrs Multiple drug regimens or recently failed weaning: Wean every 24 to 72 hrs **Morphine Wean Methadone Wean** Implement the following weaning schedule Decrease morphine dose by 10% to 20 % of the dose immediately when treatment is initiated. The schedule Continue morphine dosing interval at every 4 hours is based on methadone pharmacokinetics and is Doses less than about 0.05 ml will not be accurately designed to reach therapeutic levels rapidly. measurable (typical concentration: 1mg/1ml) 0.1 mg/kg/dose q6h x 24 hours (starting dose) Target: 0.075 mg/kg/dose q12h x 24 hours Morphine dose 0.025 mg/kg/dose every 4 hrs., 0.05 mg/kg/dose q12h x 24 hours (based on birth weight) or 0.04 mg/kg/dose q12h x 24 hours Morphine dose to 0.12 mg every 4 hrs. 0.03 mg/kg/dose q12h x 24 hours 0.02 mg/kg/dose q24h x 24 hours (1 dose) Then lengthen dose interval: Discontinue methadone Every 6 hours for 24 to 72 hours If the infant is on a methadone dose above 0.1 mg/kg/ Every 8 hours for 24 to 72 hours dose q6h, wean the dose by 0.05 mg/kg every 24 Every 12 hours for 24 to 72 hours hours until 0.1 mg/kg q6h is reached then follow Discontinue morphine weaning schedule above. Failed Weaning **Failed Weaning:** 3 consecutive scores >= 8 or 2 consecutive scores >= 12 or Rescue dose needed or Other severe signs Return to previous dosing or interval Consider adding phenobarbital 2.5 - 5.0 mg/kg/ dose every 12 hours (or appropriate alternative) Discontinue phenobarbital 24 hours after morphine is discontinued. (Weaning is not necessary as the half-life of phenobarbital is 2 to 7 days.) Continue scoring infant for 48 to 72 hours after all NAS meds discontinued. Consideration of completion with home-based withdrawal is appropriate in carefully selected infants weaped to a 6-hour parcotic regimen if no more than 2 scores are score >= 10 in the previous 48 hours.\* All Other Discharge Criteria must be met. Discharge Protocol\* **DISCHARGE CRITERIA:** (Discharge Planning begins at admission\*) (Please see Medical Home documents for infant and mother.\*) ☐ Written Discharge Plan and education understood and agreed upon by all parties including PMP PMP appointment at 48-72 hours post-discharge confirmed and transportation and childcare for the visit addressed Home Health Skilled Nursing Visits arranged for first 30 days starting 24 to 48 hours post-discharge ☐ <u>Mother's Medical Home and support services planning complete</u> ☐ Withdrawal symptoms minimal or resolved (All NAS Scores <=8 for 48 hours) Caregiver education and training complete ☐ Outpatient non-pharmacologic and pharmacologic treatment of NAS arranged or not needed ■ Breastfeeding is usually encouraged\* Other medical issues adequately addressed

Psychosocial and Home Evaluations completed and satisfactory

□ Discharge planning completed

INDIANA
PERINATAL
QUALITY
IMPROVEMENT
COLLABORATIVE

[IPOIC]

Social Work and Child Protective Services disposition and interventions established